

REMARKS

The Office Action of June 24, 2010, has been received and reviewed. Claims 1, 3 through 7, 9 through 13 and 15 through 21 are currently pending in the application. Claims 1, 3 through 7, 9 through 13 and 15 through 21 stand rejected. Applicants have amended claims 1 and 12, and respectfully request reconsideration of the application as amended herein.

Independent claim 1 is amended herein to recite, in part, "providing an extraction solution for dissolving a sprout inhibiting chemical of a crop sample and a predetermined amount of an internal standard in a container, wherein the sprout inhibitor is selected from the group of sprout inhibitors consisting of dimethylnaphthalene, chlorpropham, diisopropylnaphthalene, aromatic acids, maleic hydrazide, hydrogen peroxide plus, jasmonates, acetohydroxyacid synthase, carvone, and combinations thereof." Support for the amendment is found in the as-filed specification at least at paragraph [0015].

Independent claim 12 is amended herein to recite, in part, "collecting a tuber sample comprising the sprout inhibitor from the tuber at a potato storage facility, wherein the sprout inhibitor is selected from the group of sprout inhibitors consisting of dimethylnaphthalene, chlorpropham, diisopropylnaphthalene, aromatic acids, maleic hydrazide, hydrogen peroxide plus, jasmonates, acetohydroxyacid synthase, carvone, and combinations thereof." Support for the amendment is found in the as-filed specification at least at paragraph [0015].

35 U.S.C. § 112 Claim Rejections

Claims 1, 3 through 7, 9 through 13 and 15 through 21 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 1, as amended herein, recites, in part, "multiplying the amount of sprout inhibiting chemical measured in the extraction solution, a total surface area of the crop, and the calibration ratio, dividing by a surface area of the crop sample and dividing by a total mass of the crop to determine the amount of sprout inhibitor present on the surface of the crop per mass of the crop."

Paragraph [0035] of the specification recites:

The quantitated amount of sprout inhibitor present on the surface of the potato was calculated in the following manner. Four cores were collected from the potato, each core having a core size of about 2.1 cm in diameter, wherein the collective surface area of the four cores was about 10% of the total surface area of a potato having a mass of approximately 250 g. Alternatively, it is understood that each of the four cores can be collected from individual potatoes. To **calculate the amount of sprout suppressant (1,4, DMN) on the potato surface, the amount of DMN in the extraction solution quantitated by the separation device was multiplied by 10 (to arrive at 100%) and divided by 250 (since the potato was assumed to have a mass of about 250 g) to arrive at ppm per gram of potato.** If the calibrated ratio (R) is used based on the measurement of the internal standard, the amount of sprout suppressant quantitated from the extraction solution should be **multiplied by the calculated (R).**

Accordingly, paragraph [0035] of the as-filed specification clearly recites multiplying the amount of sprout inhibiting chemical measured in the extraction solution (the amount of DMN in the extraction solution quantitated by the separation device) a total surface area of the crop . . . divided by a surface area of the crop sample (10) divided by a total mass of the crop (250 g).

Because claim 1, as amended herein, recites subject matter which is described in the as-filed Specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed had possession of the claimed invention, Applicants respectfully request withdrawal of the 35 U.S.C. § 112 rejection of claim 1 and the dependents therefrom.

Claim 12, as amended herein, recites, in part, “multiplying the amount of sprout inhibiting chemical measured in the extraction solution, a total surface area of the tuber, and the calibration ratio, dividing by a surface area of the tuber sample and dividing by a total mass of the tuber to determine the amount of sprout inhibitor present on the surface of the tuber per mass of the tuber.”

Paragraph [0035] of the specification recites:

The quantitated amount of sprout inhibitor present on the surface of the potato was calculated in the following manner. Four cores were collected from the potato, each core having a core size of about 2.1 cm in diameter, wherein the collective surface area of the four cores was about 10% of the total surface area of a potato having a mass of approximately 250 g. Alternatively, it is understood that each of the four cores can be collected from individual potatoes. To **calculate the amount of sprout suppressant (1,4, DMN) on the potato surface, the amount of DMN in the extraction solution quantitated by the separation device was multiplied by 10 (to arrive at 100%) and divided by 250 (since the potato was assumed to have a mass of about 250 g) to arrive at ppm per gram of potato.** If the calibrated ratio (R) is used based on the measurement of the internal standard, the amount of sprout suppressant quantitated from the extraction solution should be multiplied by the calculated (R).

Accordingly, paragraph [0035] of the as-filed specification clearly recites multiplying the amount of sprout inhibiting chemical measured in the extraction solution (the amount of DMN in the extraction solution quantitated by the separation device) a total surface area of the tuber . . . divided by a surface area of the tuber sample (10) divided by a total mass of the crop (250 g).

Because claim 12, as amended herein, recites subject matter which is described in the as-filed Specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed had possession of the claimed invention, Applicants respectfully request withdrawal of the 35 U.S.C. § 112 rejection of claim 12 and the dependents therefrom.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent Publication No. 2005/0059162 to Wohleb in View of U.S. Patent Publication No. 2001/0053517 to Anton et al., U.S. Patent No. 5,958,714 to Gordon et al. and U.S. Patent No. 4,714,614 to Scher

Claims 1, 3 through 7, 9 through 13 and 15 through 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2005/0059162 to Wohleb (hereinafter “Wohleb”) in view of U.S. Patent Publication No. 2001/0053517 to Anton et al. (hereinafter “Anton”), U.S. Patent No. 5,958,714 to Gordon et al. (hereinafter “Gordon”) and U.S. Patent No. 4,714,614 to Scher (hereinafter “Scher”). Applicants respectfully traverse this rejection, as hereinafter set forth.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

Wohleb teaches extracting an analyte from a sample matrix. *Wohleb* at abstract. A sorption vial 20 is placed within a sample vessel 30. *Id.* at paragraph [0044]-[0045] and FIG. 1.

The sorption vial 20 includes a sorptive coating 27 such that when the sample vessel 30 is sealed and inverted, the analyte within a sample 15 is partitioned between the sample 15 and the sorptive coating 27. *Id.* at paragraph [0053]. The sorption vial may be removed from the sample vessel 30 and an elution solvent may be added to the sorption vial 20. *Id.* at paragraph [0054].

Anton teaches methods for determining the presence of a specific nucleic acid sequence in a non-fluid biological sample. *Anton* at abstract. The biological sample may be spiked with an internal standard of a known quantity at the time of obtaining the biological sample in order to determine the natural degradation of the sample over time, such as during shipment. *Id.* at paragraphs [0007] and [0088].

Gordon teaches methods and apparatus for qualitatively or quantitatively determining one or more analytes in matrices such as food, biological fluids, etc. *Gordon* at abstract. A chemical contaminant may be present in foods such as pesticides, herbicides, excessive concentrations of food additives and it is desirable to detect the presence of such chemical contaminants prior to sale or consumption of affected foods. *Id.* at col. 4, lines 60-65. A specific chloroacetamide herbicide may be determined relative to the total concentration of all chloroacetamide herbicides contained within a fruit or vegetable matrix using a series of membranes and reagents. *Id.* at col. 18 lines 52-60. A chopped or ground solid material combined with any desired solvents, digestants, enzymes, chelators, additives, or other necessary components may be placed within a vessel 12 and allowed to percolate or flow downwardly through an aperture 14 and through a membrane 16 into a receiving well 20 in contact with a reagent-containing pad 22. *Id.* at col. 20 line 61- col. 21 line 24. The color of the pad 22 may be compared to a color chart to determine the concentration of analyte in the solid material. *Id.*

Scher teaches a process for inducing suppressiveness to fusarium vascular wilt disease in plants. *Scher* at abstract. Scher expresses the concentration of the chemicals in terms of ppm of said chemical gram of soil. *Id.* at tables I and II.

Claims 1-11

Wohleb, Anton, Gordon, and Scher do not teach, suggest, or otherwise render obvious “providing an extraction solution for dissolving a sprout inhibiting chemical of a crop sample and

a predetermined amount of an internal standard in a container, wherein the sprout inhibitor is selected from the group of sprout inhibitors consisting of dimethylnaphthalene, chlorpropham, diisopropylnaphthalene, aromatic acids, maleic hydrazide, hydrogen peroxide plus, jasmonates, acetohydroxyacid synthase, carvone, and combinations thereof,” as recited in independent claim 1, as amended herein. Wohleb teaches a sorption vial 20 including a sorptive coating 27. Wohleb does not teach or suggest a sprout inhibitor as defined by claim 1. Anton teaches methods for determining a nucleic acid sequence in a non-fluid biological sample. Anton does not teach or suggest a sprout inhibitor as defined by claim 1. Gordon teaches a method of determining the concentration of *a specific chloroacetamide herbicide* contained within a fruit or vegetable. *Gordon*, at col. 18 lines 52-60. Gordon does not teach or suggest a sprout inhibitor as defined by claim 1. Scher teaches a process for introducing suppressiveness to fusarium vascular wilt disease in plants. Scher does not teach or suggest a sprout inhibitor as defined by claim 1.

As Wohleb, Anton, Gordon, and Scher do not teach, suggest, or otherwise render obvious each and every element of independent claim 1, it is respectfully submitted that a *prima facie* case of obviousness has not been established against independent claim 1. Consequently, Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 1.

The nonobviousness of independent claim 1 precludes a rejection of claims 2 through 7 and 9 through 11, which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. See *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

Claims 12, 13, and 15-21

Wohleb, Anton, Gordon, and Scher do not teach, suggest, or otherwise render obvious “collecting a tuber sample comprising the sprout inhibitor from the tuber at a potato storage facility, wherein the sprout inhibitor is selected from the group of sprout inhibitors consisting of dimethylnaphthalene, chlorpropham, diisopropylnaphthalene, aromatic acids, maleic hydrazide, hydrogen peroxide plus, jasmonates, acetohydroxyacid synthase, carvone, and combinations thereof” as recited in independent claim 12, as amended herein. Wohleb teaches a sorption vial

20 including a sorptive coating 27. Wohleb does not teach or suggest a sprout inhibitor as defined by claim 12. Anton teaches methods for determining a nucleic acid sequence in a non-fluid biological sample. Anton does not teach or suggest a sprout inhibitor as defined by claim 12. Gordon teaches a method of determining the concentration of a *specific chloroacetamide herbicide* contained within a fruit or vegetable. *Gordon*, at col. 18 lines 52-60. Gordon does not teach or suggest a sprout inhibitor as defined by claim 12. Scher teaches a process for introducing suppressiveness to fusarium vascular wilt disease in plants. Scher does not teach or suggest a sprout inhibitor as defined by claim 12.

As Wohleb, Anton, Gordon, and Scher do not teach, suggest, or otherwise render obvious each and every element of independent claim 12, it is respectfully submitted that a *prima facie* case of obviousness has not been established against independent claim 1. Consequently, Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 103(a) rejection of claim 12.

The nonobviousness of independent claim 12 precludes a rejection of claims 13 and 15 through 21, which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. See In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

ENTRY OF AMENDMENTS

The amendments to claims 1 and 12 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1, 3 through 7, 9 through 13 and 15 through 21 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



Belinda A. Suwe
Registration No. 61,239
Attorney for Applicants
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

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